WHAT IS CLAIMED IS:

1. A method of generating a morphogen composition from an extracellular matrix, the method comprising:

growing cells on a surface in a fluid under conditions and for a time sufficient to enable the cells to form an extracellular matrix (ECM);

stimulating the extracellular matrix to release morphogens into the fluid; and

collecting the fluid to form a morphogen composition.

2. The method of claim 1, wherein the morphogens are growth factors or differentiating factors.

3. The method of claim 1, wherein the morphogens are differentiating factors, growth factors, bioactive fragments of the ECM, or any combination of two of more of these morphogens.

4. The method of claim 1, wherein the morphogen composition comprises a plurality of morphogens.

5. The method of claim 1, wherein the fluid comprises a biocompatible liquid or biocompatible gel.

6. The method of claim 1, wherein stimulating the extracellular matrix comprises applying an electric potential to the extracellular matrix.

7. The method of claim 6, wherein the electric potential cycles from a negative voltage to a positive voltage and back to a negative voltage.

8. The method of claim 6, wherein the electric potential ranges from –0.3 V to +0.3 V.

9. The method of claim 6, further comprising varying frequency, potential range, potential cycle shape, or potential cycle number of the electric potential to control release and activation of specific morphogens.

10. The method of claim 1, further comprising removing cells from the extracellular matrix to form a cell-free extracellular matrix.

11. A morphogen composition comprising a plurality of morphogens released from a stimulated extracellular matrix.

12. The composition of claim 11, further comprising a biocompatible fluid.

13. The composition of claim 12, wherein the fluid is a buffer.

14. The composition of claim 12, wherein the fluid is a gel.

15. The composition of claim 11 in lyophilized form.

16. The composition of claim 11, wherein the plurality of morphogens comprises any two or more growth factors, differentiating factors, bioactive fragments of the ECM, or any combination of two or more of these morphogens.

17. The composition of claim 16, wherein the plurality of morphogens comprises fibroblast growth factor, transforming growth factor beta, or both.

18. The composition of claim 11, wherein the extracellular matrix is cell-free.

19. The composition of claim 11, wherein the extracellular matrix is stimulated by an electric potential.

20. The composition of claim 19, wherein the electric potential is a negative potential.

21. A method of tissue reconstruction, the method comprising

obtaining an extracellular matrix;

stimulating the extracellular matrix to induce release of morphogens; and

administering the stimulated extracellular matrix to a site where tissue reconstruction is needed.

22. The method of claim 21, further comprising incorporating the stimulated extracellular matrix into a bandage material.

23. The method of claim 21, wherein the site is a tissue defect and the stimulated extracellular matrix includes specific morphogens for treating a specific type of tissue defect.

24. The method of claim 23, wherein the specific type of tissue defect is a laceration, a burn, or a venomous sting.

25. The method of claim 24, wherein the bandage is coded according to the specific type of tissue defect and morphogen that the extracellular matrix of the bandage has released.

26. The method of claim 23, wherein administering the stimulated extracellular matrix comprises placing the bandage in contact with the tissue defect to saturate the tissue defect with morphogens.

27. The method of claim 21, wherein administering the stimulated extracellular matrix comprises placing the stimulated extracellular matrix in contact with a tissue defect in a surgical site to saturate the tissue defect with morphogens.

28. The method of claim 21, wherein the extracellular matrix is cell-free.

29. A method of tissue reconstruction, the method comprising

obtaining a morphogen composition of claim 11; and

administering the morphogen composition to a site where tissue reconstruction is needed.

30. The method of claim 29, wherein the composition comprises a biocompatible liquid.

31. A bandage for application to a tissue defect comprising:

an impermeable membrane forming a sealed cavity;

a first conducting layer arranged within the sealed cavity;

a second conducting layer arranged within the sealed cavity and spaced apart from the first conducting layer;

a buffer reservoir located within the sealed cavity; and

an extracellular matrix arranged within the sealed cavity between the first and second conducting layers and contacting one of the conducting layers.

32. The bandage of claim 31, further comprising a permeable membrane positioned adjacent to the cell-free extracellular matrix and arranged between the first and second conducting layers.

33. The bandage of claim 31, further comprising flexible insulating structural members to maintain separation between the first and second conducting layers during delivery of an electric potential to the cell-free extracellular matrix.

34. The bandage of claim 31, wherein the impermeable membrane comprises an upper impermeable membrane and a lower impermeable membrane sealed together at their respective edges to form the sealed cavity.

35. The bandage of claim 31, wherein the buffer reservoir contains an electrolytic buffer.

36. The bandage of claim 34, wherein the lower impermeable membrane is removable.

37. The bandage of claim 31, wherein the extracellular matrix is cell-free.

38. An electric bandage for application to a tissue defect, the device comprising:

a flexible sheet;

a chamber fixed to the flexible sheet and containing an extracellular matrix;

a first conductor arranged on one side of the chamber;

a second conductor arranged on another side of the chamber;

an electric power source connected to the first and second conductors;

a buffer reservoir arranged to deliver its contents to the extracellular matrix in the chamber; and

a controller connected to the electric power source for applying an electrical potential to the extracellular matrix.

39. The electric bandage of claim 38, wherein the buffer reservoir comprises a liquid impermeable material that can be ruptured by pressure.

40. The electric bandage of claim 38, wherein the buffer reservoir contains an electrolytic buffer.

41. The electric bandage of claim 38, wherein a plurality of morphogens are bound within the extracellular matrix until released by application of electrical potential.

42. The electric bandage of claim 38, wherein the first and second conductors comprises a gold electrode surface, an indium tin oxide electrode surface, or an organic conducting polymer surface.

43. The electric bandage of claim 42, wherein the organic conducting polymer surface is electrochemically grown or deposited on a metal or non-metallic substrate.

44. The electric bandage of claim 38, wherein the controller applies an electric potential in a range of –0.3 V to +0.3 V.

45. The electric bandage of claim 38, wherein the extracellular matrix is cell-free and includes specific morphogens for treating a specific type of tissue defect.

46. A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a morphogen composition of claim 11.